

CONTINUITY SHEET OF REEL #7  
ELEMENTS OF THE AUTOMOBILE. ✓

MAY -2 1921 ✓

1 Reel

M T

Part 7.

M T

The Bray Pictures Corporation  
presents  
"ELEMENTS OF THE AUTOMOBILE"  
by  
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M T.

Produced for  
The Education  
And Recreation Branch  
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under the supervision  
of the  
Motor Transport Division  
Quartermasters Corps  
United States Army.

M S

The Fuel System.

Sub

Gasoline is usually stored in a tank in the rear of the car.

Sc 1

Long shot. Car complete. Pointer indicates rear end. Tank dissolves in.

Sub

It is too low to feed the carburetor by gravity.

Sc 2

Long shot, of car. Frame dissolves out. Dotted line dissolves in.

Sub

An auxiliary tank may be used.

Sc 3

Long shot of engine and fuel tank. Auxiliary tank dissolves in. Pointer indicates it. Dissolve to close up of these three units.

Sub

The auxiliary tank carries a supply of gasoline which it feeds to the carburetor by gravity.

Sc 4

Close up. Pipe line from auxiliary tank to carburetor dissolves in. Engine dissolves out, leaving intake manifold. Pointer indicates pipe. Action of flow to carburetor.

Sub

The auxiliary tank is connected to the main tank.

Sc 5

Pipe just mentioned dissolves in. Pointer indicates it.

Sub The problem is to get the gasoline up to the auxiliary tank.

Sc 6 Pointer indicates path gasoline must take.

Sub This is usually accomplished by suction which is created by connecting the tank to the intake manifold of the engine.

Sc 7 Pointer indicates auxiliary tank, then intake carburetor. Pipe line dissolves in.

Sub While the engine is in operation, the suction in the manifold acts on the auxiliary tank. (The arrows represent suction).

Sc 8 Action of arrows dissolve in.

Sub The suction draws the gasoline into the auxiliary tank.

Sc 9 Action of arrows dissolve in. Then flow of gasoline dissolves in, completing the system.

Sub The gasoline is drawn into the engine from the carburetor by the suction of the piston.

Sc 10 No action. Engine dissolves in. Dissolve to section of intake manifold. Complete action of system.

Sub After the vaporized gasoline has been exploded, it is forced out through the exhaust manifold.

Sc 11 Pointer indicates exhaust manifold. Dissolve to section of manifold. Action of complete system.

Sub The exhaust gases are conducted from the manifold to a muffler which kills the noise of the explosion.

Sc 12 Close up of fuel system. Dissolve out all but engine. Dissolve to long shot of engine and muffler. Pointer indicates exhaust pipe and muffler. Dissolve to section of muffler and exhaust pipe. Dissolve to close up of muffler. Pointer indicates course. Dissolve to long shot of action of intake and exhaust. Action fades out. Dissolve in fuel tank. Dissolve in auxiliary tank, then pipe lines.

Sc 13 Frame dissolves in. Complete action dissolves in. Fade out action. Fade out car.

M 8 Ignition.

Sub The compressed gas in the cylinder is ignited by an electric spark.

Sc 1 One-cylinder engine. Close up section. Pointer indicates spark plug. Action of spark only. Continuous action of



engine with gases.

Sub The spark is caused by a high voltage current arcing across a gap.

Sc 2 Pointer indicates plug. Dissolve to close up of plug. Action of current and spark.

Sub There are two methods of producing the spark.  
(1) Battery system  
(2) Magneto system

Sub The battery system will be used on this car. Current is drawn from a battery.

Sub The battery voltage is very weak. It could not arc across a very small gap in the circuit.

Sc 3 Line drawing of one-cylinder engine. Battery and straight wire with open switch in circuit. Pointer indicates gap. Then pointer closes switch. No flow of current. Pointer opens and closes switch several times.

Sub In order for the voltage to arc across the gap in the spark plug, it must be several hundred times as powerful as the battery voltage.

Sc 4 Close up of spark plug. Action of current and sparks.

Sub The voltage is changed from a weak to a powerful one by an ignition coil.

Sc 5 Line drawing of one-cylinder engine, battery and single wire. High tension coil, high tension wire and spark plug dissolve in.

Sub The coil consists, first of all, of an iron core.

Sc 6 High tension and low tension wires dissolve out. Coil *dissolves* to iron core.

Sub The wire from the battery is wound around the core. It is called the primary.

Sc 7 Primary wire dissolves in. Pointer closes switch. Action of current. Repeat several times.

Sub Around the primary is wound another wire called the secondary.

Sub It really ~~consists~~ consists of a great number of turns of very fine wire, but for convenience is not so shown

Sc 8 High tension coil with small loop dissolve in.

Sub The secondary wire is not connected in any way to the primary or to the core.

Sub As long as the switch is closed, current flows through the primary, but nothing happens in the secondary.

Sc 9 Action of current in primary.

Sub As soon as the primary circuit is broken suddenly, a powerful voltage is "induced" for an instant in the secondary.

Sc 10 Action of current in primary. Pointer opens switch. Action of current in high tension wire. Repeated several times.

Sub This secondary voltage is powerful enough to arc across a gap.

Sc 11 Pointer indicates gap in secondary. Pointer opens switch and closes it several times. Action of currents.

Sub The secondary is connected to the spark plugs

Sc 12 Spark plug dissolves in over line drawing of engine. Action of switch opening and closing.

Sub End of Part 7

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